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Are State Elections Affected by the National Economy? Evidence from Australia

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Abstract

Using data from 191 Australian state elections, we test how voters respond to economic conditions. We find that unemployment has a strong impact on election outcomes, with each additional percentage point of unemployment reducing the incumbent's re-election probability by 3-5 per cent. However, when we separate luck (unemployment in other states) from competence (unemployment in that state relative to the rest of Australia), we find that both luck and competence are equally important. This is consistent with a psychological theory of the 'fundamental attribution error', in which observers consistently underestimate the importance of situational constraints. We also find evidence that unemployment driven by a clearly exogenous source – the United States economy – has a non-trivial impact on the re-election probability of Australian state governments. Our results suggest that Australian voters either retain too many state governments in economic booms, vote out too many state governments in recessions, or perhaps both.

JEL Codes: D72, D80
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I. Introduction

In the early-1990s, the Australian economy entered its deepest downturn in the post-war era, with the national unemployment rate reaching nearly 12 percent in early-1993. During the period 1992-1995, six of Australia's eight states and territories ousted their government.[1] By contrast, the mid-2000s saw the Australian economy enjoying strong growth and falling unemployment. During 2003-2006, Australia's unemployment rate averaged 5 percent. In these years, no state or territory government was ousted from power. Were the state leaders who lost office in the early-1990s unfairly punished for the state of the national economy? And were some of those who kept office in the mid-2000s unfairly rewarded?

In a number of studies, psychologists have noted the tendency of observers to overestimate the control that actors have over their environment, and underplay the importance of situational constraints. This bias, known variously as 'fundamental attribution error' or 'the overattribution effect', has been the focus of a wide variety of laboratory experiments.[2] Economists have also demonstrated the existence of fundamental attribution error in various settings. For example, CEO compensation is just as responsive to a 'lucky dollar' as to an 'earned dollar' (Bertrand &

[1] Changes of government occurred in the Australian Capital Territory (1995), New South Wales (1995), South Australia (1993), Tasmania (1992), Victoria (1992), and Western Australia (1993). The exceptions were Queensland and the Northern Territory.

[2] See for example Ross (1977), Tetlock (1985), Ross and Nisbett (1991), Jones (1990), and Gilbert and Malone (1995). In the classic laboratory experiment, subjects were asked to discern the true beliefs of essay-writers from a set of essays. Although they were told that the essay-writers had been instructed to take a particular position in the essay, they nonetheless tended to conclude that the writer supported that position.

Mullainathan, 2001). Managers do not adjust for employee task difficulty when assessing employee ability (Durrell, 2001). On the sporting field, and even in financial markets, participants often believe in the 'hot hand' fallacy: the notion that individuals have runs of success or failure that are determined by more than chance (McFadden, 2006).

In this paper, we explore fundamental attribution error in a different context, looking at whether voters in Australian state and territory elections parse out the effects of the national economy when deciding whether to re-elect their governments. Our theory is a simple one: if voters are fully rational, and their voting decisions are based on economic conditions, they should not merely take into account the performance of their own state economy. Instead, they should compare their state's economic performance to that of other states in the nation. (From this point on, we refer to the states and territories just as 'states', for simplicity.)

In broad terms, our paper relates to the extensive literature that has looked at the impact of the macroeconomy on election outcomes (e.g. Kramer, 1971; Fair, 1978; Chappell, 1983; Kenny, 1983; Peltzman, 1987; Alesina *et al.*, 1993; Alesina *et al.*, 1999). This literature includes several studies that have analysed Australian federal election outcomes (Jackman & Marks, 1994; Jackman 1995; Cameron & Crosby, 2000; Wolfers & Leigh, 2002). In general, these studies have found that the economy affects election outcomes; however there is evidence to suggest that when the same models are estimated for both the United States and Australia, Australian voters appear to be less sensitive to the macroeconomy (Leigh & Wolfers, 2006).

The two closest studies to our own are Wolfers (2007), who found that state governors are more likely to be re-elected when the national economy booms, and Leigh (2009), who concluded that voters in national elections are more likely to re-elect national leaders when the world economy is growing rapidly.[3] Our analysis builds on these studies by using state-level data from Australia, a country for which the effect of the macroeconomy on state elections has not previously been analysed.[4] By exploiting very rich data on unemployment, we are able to test for attribution errors over an exceptionally long period, from 1913 to 2006.

The remainder of our paper proceeds as follows. Section II outlines our data and methodology. Section III presents results, and the final section concludes.

II. Data and Methodology

The creation of the dataset used in our analysis entailed substantial archival research. Election outcomes were hand-coded from the Australian Government and Politics Database at the University of Western Australia (2006). While information on the primary vote share is available for Australian state elections, we were not able to obtain consistently-coded data on vote share after the allocation of preferences. Consequently, instead of using vote-share data, our dependent variable

[3] See also Ebeid and Rodden (2006), who test the theory on a smaller number of years than Wolfers, and conclude that the relative performance of the state economy matters more for voters in non-agricultural states.

[4] In comparing the ability of state and federal governments to affect the macroeconomy in Australia and the United States, an important similarity is that the two countries' constitutions have a similar allocation of powers between the federal government and the state governments. However, a key difference is that in the United States, the executive is separately elected (raising the possibility of deadlock between the lower house and the executive), while in Australia, the executive is drawn from the legislature.

is a 'change of government' indicator variable that is equal to 1 if the incumbent party loses, and 0 if the incumbent party wins.

The election outcomes data set covers the period 1913-2006. Although state election data is available for years before 1913, we are constrained by the availability of state economic data prior to this point. Australia's two territories only began holding elections late in the sample period (the ACT in 1989 and the NT in 1974). Because our dependent variable is a change of government, and one of our key independent variables is the change in the macroeconomy over the election cycle, we drop the first election for each state from our sample.[5] Across the state elections in our sample, the Labor Party were the incumbent 51 per cent of the time, and the conservative parties were the incumbent 49 per cent of the time. (At the federal level, by contrast, the Labor Party were the incumbent for 45 per cent of the elections in our sample, while conservatives parties held federal office when 55 per cent of our elections took place.)

Our chosen measure of economic performance is the unemployment rate. We opt to use unemployment on the basis that it follows the existing literature (unemployment is an oft-used economic indicator in political business cycle studies), and for reasons of convenience (high-frequency state-based unemployment data are available over a much longer time span than other economic indicators). As is well known, economic indicators often move in tandem. For example, over the period for which

[5] Specifically, we drop the following elections: ACT 1989, NSW 1913, QLD 1915, SA 1915, TAS 1913, VIC 1914, WA 1914. For the Northern Territory, we drop both the 1974 and 1977 elections, since we do not have unemployment data for the Northern Territory in 1974. The first election for each state is ACT 1992, NSW 1917, NT 1980, QLD 1918, SA 1918, TAS 1916, VIC 1917, WA 1917.

we are able to obtain estimates of state unemployment and gross state product per capita (1990-2006), the R^2 from a regression of unemployment on GSP is 0.63. (This is not merely due to cross-state differences. When we include state fixed effects, the within-state R^2 is 0.52.)

Since there is no single source for state unemployment rates, we merge data from four sources. These are:

a) the Australian Bureau of Statistics (1978-2006);
b) the DX database (1971-1977);
c) estimates from the Australian Department of Labour and National Service on the number of people registered to receive unemployment benefits (1947-1970), combined with estimates of the state labour force from the census; and
d) trade union unemployment rates from the Labour report (covering the period 1913-1946).

Details of our sources and adjustments are described in the data appendix. So far as we are aware, we are the first to estimate state unemployment rates covering the period 1913-2006.

Table 1 shows summary statistics for our key dependent and independent variables by state. Panel A shows results for all 191 elections in our sample. Panel B shows the results for the 64 elections that resulted in a change of government, and Panel C shows the results for the 127 elections that did not result in a change of government.

This table suggests that the state of the economy matters: in the elections that resulted in a change of government, the mean state unemployment rate was 6.6%,

and the state unemployment rate rose by an average of 1.3%; while in the elections that did not result in a change of government, the mean state unemployment rate was 4.8%, and the state unemployment rate fell by an average of 0.6%. A similar pattern emerges using data from the rest of Australia: in the elections that resulted in a change of government, the mean rest of Australia unemployment rate was 6.4%, and the unemployment rate in the rest of Australia rose by an average of 1.1%; while in the elections that did not result in a change of government, the mean rest of Australia unemployment rate was 5.0%, and the unemployment rate in the rest of Australia fell by an average of 0.6%.

Table 1: Change in government and unemployment by state					
		Own state		Rest of Australia	
	Elections	U	ΔU	U	ΔU
Panel A: All Elections					
ACT	5	5.7%	0.0%	7.6%	0.0%
NSW	30	5.6%	0.0%	5.2%	0.0%
NT	8	6.5%	0.2%	7.4%	-0.1%
QLD	32	5.0%	-0.2%	5.4%	0.0%
SA	29	5.2%	0.0%	5.0%	-0.1%
TAS	28	6.0%	0.1%	5.5%	0.0%
VIC	31	5.0%	0.1%	5.4%	0.1%
WA	28	5.1%	0.1%	5.5%	0.0%
Total	191	5.4%	0.0%	5.5%	0.0%
Panel B: Change in Government					
ACT	2	5.5%	-1.4%	7.3%	-1.7%
NSW	12	6.9%	1.2%	6.2%	0.6%
NT	1	7.0%	1.5%	6.6%	-1.5%
QLD	5	6.5%	1.0%	8.5%	2.7%
SA	12	6.8%	1.5%	6.1%	1.0%
TAS	10	7.7%	0.8%	6.5%	0.3%
VIC	10	5.7%	1.8%	5.8%	1.5%
WA	12	5.9%	1.6%	6.3%	2.1%
Total	64	6.6%	1.3%	6.4%	1.1%
Panel C: No Change in Government					
ACT	3	5.9%	0.8%	7.7%	1.0%
NSW	18	4.8%	-0.7%	4.5%	-0.4%
NT	7	6.4%	0.0%	7.5%	0.1%
QLD	27	4.7%	-0.4%	4.8%	-0.5%
SA	17	4.1%	-1.0%	4.2%	-0.8%
TAS	18	5.1%	-0.3%	4.9%	-0.2%
VIC	21	4.6%	-0.8%	5.1%	-0.6%
WA	16	4.5%	-1.1%	4.9%	-1.5%
Total	127	4.8%	-0.6%	5.0%	-0.6%

Note: ΔU is the change in the unemployment rate since the previous election in that state or territory. Figures for the rest of Australia are weighted by the size of the labour force in each state or territory.

III. Results

We begin by providing a graphical flavour of our results; charting the Australian national unemployment rate against the share of state governments who lost an election (averaged over 5 year periods). Given that each state makes up only a minority of the national economy, it should be the case that if voters assess their

state government's economic performance by reference to the rest of Australia, the relationship between national economic circumstances and state election outcomes will be weak or non-existent.[6] Instead, the relationship appears to be quite strong and positive. As Figure 1 shows, at times when unemployment is high, the share of state governments that are ousted also tends to be higher.

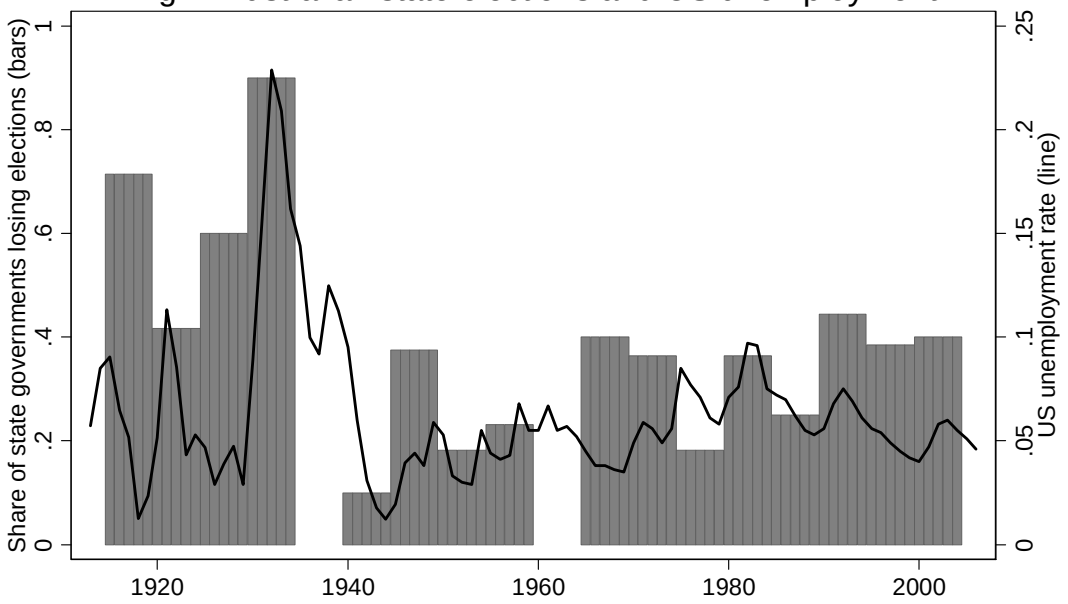
Fig 1: Australian state elections and national unemployment

To make the point clearer still, Figure 2 plots the relationship between the unemployment rate in the United States and the share of Australian state governments that are re-elected. Since the United States economy has a strong effect on the Australian economy (but not vice-versa), this provides further evidence that

[6] To see why this relationship might be weak (rather than non-existent), suppose that an upswing in unemployment is primarily driven by a large state (e.g. NSW or Victoria). Such an upswing would increase the national unemployment rate, and voters in that state who benchmarked their economy against other states would nonetheless be more inclined to vote out their government. We address this in our regression analysis by including separate controls for the unemployment rate in a given state and the unemployment rate in the rest of Australia.

Australian voters do not parse out general economic conditions when choosing whether or not to re-elect state governments.

Fig 2: Australian state elections and US unemployment



In our regression analysis, we begin by simply looking at the effect of economic conditions on state elections. In these regressions, the dependent variable is whether the government was re-elected, and the key independent variable is the level of unemployment, or the change in unemployment over the electoral cycle.[7]

We also need to account for variables that might affect a government's probability of re-election, and which may also be correlated with economic circumstances. We therefore include three indicator variables. The first is an indicator to account for a honeymoon effect, which is equal to 1 if it is the incumbent government's first

[7] During the post-war period, it is possible to obtain data on the inflation rate in the capital city of each state and territory. However, when we include both inflation and unemployment (or change in inflation and change in unemployment), the inflation coefficient is close to zero and statistically insignificant.

election after coming into power, and 0 otherwise.[8] The second indicator variable accounts for the possibility that Labor and conservative governments might have a differential probability of being re-elected, and is equal to 1 when the incumbent government is Labor, and 0 otherwise.[9] The third indicator variable accounts for the possibility that voters might use state elections to send a message to the federal government. Consequently, state governments might find it more difficult to win re-election if the same party is in power federally. This 'message' variable is equal to 1 when the incumbent state government is of the same party as the federal government, and 0 otherwise.[10] To account for the possibility that re-election rates differ systematically by state, we also include state fixed effects.

Our first two regression specifications take the form:

$$ChangeGovernment_{st} = \alpha + \beta U_{st} + \gamma' Z_{st} + \delta_s + \varepsilon_{st} \quad (1)$$

$$ChangeGovernment_{st} = \alpha + \beta \Delta U_{st} + \gamma' Z_{st} + \delta_s + \varepsilon_{st} \quad (2)$$

[8] We include a honeymoon dummy on the basis that it accords with the previous literature. Other specifications, such as a quadratic term for the number of years since the party took office, have virtually no effect on the unemployment coefficients.

[9] We also experimented with interacting unemployment (or the change in unemployment) with the ALP indicator – effectively testing the hypothesis that the impact of unemployment on re-election differs according to the political complexion of the incumbent. In each case, the interaction coefficient was quite small and statistically insignificant.

[10] Conversely, it might be the case that state incumbents are more likely to be re-elected if they are of the same party as the federal government. This could occur if voters held general beliefs about the competence of particular political parties during certain eras (e.g. that the conservative Coalition were more competent in the late-1950s, or that the Labor Party was more competent during the first decade of the twenty-first century). Empirically, there appears to be some support for this: the 'message' indicator variable is negative in all specifications.

where *ChangeGovernment* is an indicator variable equal to 1 if the state government in state s in election t loses office, and 0 if it is returned. U_{st} is the unemployment rate in state s and year t, and ΔU_{st} is the state-specific change in the unemployment rate over the election cycle. Z is a vector of control variables, δ are state fixed effects, and ε is an error term. The parameter β denotes the effect of economic circumstances on the election outcome. We estimate the regressions using a linear probability model.[11]

Table 2 shows the results of these regressions. Focusing on the level of unemployment (column 1), we show that if the unemployment rate is 1 percent higher, then the probability of a state government losing office increases by 2.8 percentage points, while a 1 percent increase in the unemployment rate over the election cycle increases the probability of a state government losing office by 3.7 percentage points (column 2). Since the average probability of a change in government is 33 percent, this suggests that unemployment can have a substantial impact on election outcomes.

[11] We do not use a probit model since "the probit model does not lend itself to a fixed effects treatment" (Baltagi, 2001: 209). Results from a logit model are similar, though the sample is smaller when business cycle fixed effects are included, since the dependent variable does not always vary within a business cycle. Using a linear probability model also simplifies our IV analysis in Table 4, since logit IV estimates are unreliable (Angrist & Krueger, 2001). Wooldridge (2002) suggests that a check on the linear probability model is to see how many of the fitted values do not lie between 0 and 1. For the linear probability models estimated without business cycle fixed effects, between 2 and 5 of the 191 observations lie outside the 0/1 interval. For each of the linear probability models estimated with business cycle fixed effects, between 10 and 11 of the 191 observations lie outside the 0/1 interval.

In columns 3 and 4, we include business cycle fixed effects, with business cycles coded from Harding (2002). By allowing each business cycle to take its own fixed effect, we reduce the likelihood that the results are driven by a single period, such as the harsh downturns of the 1930s and 1990s, or the long boom of the 1950s and 1960s.[12] The results from this specification are slightly larger than those without business cycle fixed effects: if the unemployment rate is 1 percent higher, then the probability of a state government losing office increases by 4.9 percentage points, while a 1 percent increase in the unemployment rate over the election cycle increases the probability of a state government losing office by 4.1 percentage points.[13]

The other controls generally take the expected sign. As at the federal level (Cameron & Crosby, 2000), state governments are more likely to be re-elected in their first election after coming to power. We estimate that this 'honeymoon effect' is worth 9-10 percentage points (though this is not statistically significant). The Labor coefficient is close to zero and statistically insignificant in all specifications, suggesting that there are no important partisan differences in re-election rates once the state of the economy has been taken into account. We find no evidence that voters use state elections to send 'a message to Canberra'. Indeed, the coefficient on

[12] Another approach is to drop the 1930s entirely from our data. When we do this, the coefficients on unemployment, luck and competence tend to be of about the same magnitude, but are generally not statistically significant (p-values around 0.1-0.2). This suggests the possibility that there may be some non-linearity in the relationship between unemployment and election outcomes. However, given the binary nature of our dependent variable, we do not explore this issue further.

[13] We also re-estimated the models in columns 1 and 3 of Table 2, adding the unemployment rate in the year of the previous election. When we do this, the coefficient on the previous election's unemployment rate is negative and statistically significant, but the coefficient on the current unemployment rate remains significant, and the point estimate is slightly higher (4.567 for the specification in column 1 and 5.001 for the specification in column 3).

the *Message* dummy is negative, indicating that state governments are less likely to be ousted if the federal government is of the same political party.

Table 2: Does the state economy affect election outcomes?
Dependent variable is 1 if the incumbent government loses office, 0 otherwise

	[1]	[2]	[3]	[4]
U	2.845***		4.895***	
	[0.816]		[1.197]	
ΔU		3.674***		4.108***
		[0.796]		[0.716]
Honeymoon	-0.092	-0.095	-0.105	-0.088
	[0.075]	[0.073]	[0.077]	[0.076]
ALP	-0.017	0.002	0.019	0.009
	[0.076]	[0.075]	[0.080]	[0.078]
Message	-0.069	-0.025	-0.128	-0.123
	[0.075]	[0.071]	[0.080]	[0.079]
State FE	Yes	Yes	Yes	Yes
Business Cycle FE	No	No	Yes	Yes
N	191	191	191	191
R^2	0.11	0.13	0.22	0.24

Notes: Heteroskedasticity-robust standard errors in brackets. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels respectively. The variables *Honeymoon*, *ALP*, and *Message* are indicators denoting, respectively, honeymoon elections, an ALP incumbent government, and the incumbent government being of the same party as the federal government.

We now turn to consider whether the impact of economic conditions on state elections is due to voters rewarding luck or competence. To do this, we define two unemployment variables:

- the unemployment rate in the rest of Australia ('luck'), and
- the unemployment rate in that state, minus the rate in the rest of Australia ('competence').

We now specify regressions that take the form:

$$ChangeGovernment_{st} = \alpha + \beta_1 U_{\sim st} + \beta_2 \left(U_{st} - U_{\sim st}\right) + \gamma' Z_{st} + \delta_s + \varepsilon_{st} \quad (3)$$

$$ChangeGovernment_{st} = \alpha + \beta_1 \Delta U_{\sim st} + \beta_2 \left(\Delta U_{st} - \Delta U_{\sim st}\right) + \gamma' Z_{st} + \delta_s + \varepsilon_{st} \quad (4)$$

In equation 3, $U_{\sim st}$ is the unemployment rate in the rest of Australia ('luck') and ($U_{st} - U_{\sim st}$) is the difference between a state's unemployment rate and the rest of Australia ('competence'). Equation 4 is a similar specification, but with unemployment specified in changes instead of levels. In both equations, the parameters β_1 and β_2 denote luck and competence respectively.[14]

Table 3 shows the results of these specifications. Again, we show four specifications, with unemployment defined as levels and differences, and with and without business cycle fixed effects. Across these four specifications, we find consistent evidence that luck and competence bring similar benefits to state governments. For example, controlling for business cycle fixed effects, and estimating unemployment in levels (column 3), we find that a 1 percentage point rise in unemployment in the rest of Australia increases the probability of a state

[14] We specify our regressions in this manner since both β_1 and β_2 have an intuitive interpretation ('luck' and 'competence' respectively). However, note that one could achieve the same result by rearranging the parameters rather than the variables, since $\beta_1 U_{\sim st} + \beta_2 \left(U_{st} - U_{\sim st}\right)$ is equivalent to $\left(\beta_1 - \beta_2\right) U_{\sim st} + \beta_2 U_{st}$. We also experimented with specifying competence as $U_{st} / U_{\sim st}$, and found that the coefficients on both luck and competence remained positive and statistically significant.

government losing office by 5.1 percentage points, while a 1 percentage point rise in unemployment in that state – relative to the rest of Australia – increases the probability of that government losing office by 4.4 percentage points. All but two of the eight luck and competence coefficients are statistically significant.

Table 3: Which matters more – luck or competence?
Dependent variable is 1 if the incumbent government loses office, 0 otherwise

	[1]	[2]	[3]	[4]
Luck ($U_{\sim st}$)	2.731***		5.130***	
	[0.877]		[1.533]	
Competence ($U_{st}-U_{\sim st}$)	3.821		4.373**	
	[2.390]		[2.215]	
Luck ($\Delta U_{\sim st}$)		3.893***		4.210***
		[0.828]		[0.749]
Competence ($\Delta U_{st}-\Delta U_{\sim st}$)		2.723		3.722**
		[1.813]		[1.692]
Honeymoon	-0.096	-0.094	-0.103	-0.087
	[0.075]	[0.073]	[0.077]	[0.076]
ALP	-0.017	0.006	0.02	0.011
	[0.076]	[0.075]	[0.080]	[0.079]
Message	-0.066	-0.028	-0.13	-0.124
	[0.075]	[0.071]	[0.081]	[0.079]
State FE	Yes	Yes	Yes	Yes
Business Cycle FE	No	No	Yes	Yes
N	191	191	191	191
R^2	0.11	0.13	0.22	0.24

Notes: Heteroskedasticity-robust standard errors in brackets. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels respectively. The variables *Honeymoon*, *ALP*, and *Message* are indicators denoting, respectively, honeymoon elections, an ALP incumbent government, and the incumbent government being of the same party as the federal government. In all four specifications, an F-test cannot reject (at the 10% level) the hypothesis that the luck and competence coefficients are the same.

One possible explanation for the results in Table 3 is that they are affected by a variant of the classic reflection problem (Manski, 1993). To see this, suppose that two neighbouring states, A and B, have a positive effect on each other's economies. Now suppose that the government of state A reduces unemployment. This will have the effect of also lowering unemployment in state B. Understanding this, a rational voter might well reward the government of state A when she observes a reduction in

employment in both states. If economic spillovers are large, what we term 'luck' may well also contain a measure of 'competence'.

A plausible solution to this problem is to find some instrument that affects the economy in the rest of Australia, but is uncorrelated with a state government's competence. One suitable instrument is the unemployment rate in the United States. As noted above, the United States economy affects the economy of Australia's states, but because the Australian economy is only one-twentieth the size of the US economy, the reverse does not hold.[15] For example, around the year 2000, the US accounted for 13 percent of Australia's merchandise trade, while Australia accounted for less than 1 percent of the US's merchandise trade. We can therefore instrument 'luck' with the US unemployment rate, or the change in the US unemployment rate over the election cycle, as applicable.

Table 4 shows the results of these specifications. The coefficients on luck and competence remain positive in all specifications, and are generally of similar magnitude to the corresponding estimates in Table 2. Five of the eight luck and competence coefficients are statistically significant, while three are not. In none of the specifications can we reject the null hypothesis that the luck and competence coefficients are of the same magnitude. This suggests that to the extent that

[15] An alternative approach would be to instrument using the UK unemployment rate, which requires splicing together data from Feinstein (1972), Boyer and Hatton (2002), and the Office for National Statistics (2008). This produces similar results. Our rationale for using the US series as an instrument is that: (a) the first stage is slightly stronger – most likely because the UK series is somewhat noisier; and (b) the exclusion restriction is a little less likely to hold for the US than the UK, given that the UK is a smaller country. Australian trade with the UK and US over the twentieth century is plotted in ABS (2001, 1037), which shows that until the 1960s, the UK was a larger trading partner for Australia than the US, after which the two countries swapped places.

Australian voters respond to the change in economic conditions over the cycle, this response is as much driven by luck as by competence.

Table 4: Instrumenting luck with US unemployment
Dependent variable is 1 if the incumbent government loses office, 0 otherwise

	[1]	[2]	[3]	[4]
Luck ($U_{\sim st}$)	1.871		4.315**	
	[1.144]		[2.015]	
Competence ($U_{st}-U_{\sim st}$)	3.513		4.171**	
	[2.390]		[2.061]	
Luck ($\Delta U_{\sim st}$)		3.206***		3.764***
		[1.097]		[0.988]
Competence ($\Delta U_{st}-\Delta U_{\sim st}$)		2.561		3.605**
		[1.779]		[1.578]
Honeymoon	-0.1	-0.095	-0.102	-0.087
	[0.072]	[0.071]	[0.071]	[0.070]
ALP	-0.017	0.001	0.016	0.008
	[0.074]	[0.073]	[0.074]	[0.073]
Message	-0.05	-0.025	-0.126*	-0.122*
	[0.074]	[0.069]	[0.074]	[0.073]
State FE	Yes	Yes	Yes	Yes
Business Cycle FE	No	No	Yes	Yes
N	191	191	191	191
Centred R^2	0.10	0.12	0.22	0.24
F-test on excluded instrument	631.80	319.11	174.19	212.54
	P=0.0001	P=0.0001	P=0.0001	P=0.0001

Notes: Heteroskedasticity-robust standard errors in brackets. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels respectively. The variables *Honeymoon*, *ALP*, and *Message* are indicators denoting, respectively, honeymoon elections, an ALP incumbent government, and the incumbent government being of the same party as the federal government. In both levels and differenced specifications, 'luck' is instrumented using the US unemployment rate, or the change in the US unemployment rate over the election cycle. In all four specifications, an F-test cannot reject (at the 10% level) the hypothesis that the luck and competence coefficients are the same.

IV. Discussion and Conclusions

Prior to the 2006 state election in South Australia, then Prime Minister John Howard told a radio interviewer:[16]

[16] Transcript of John Howard interview with Keith Colon and Tony Pilkington on 5AA Adelaide on 22 February 2006, archived at http://pandora.nla.gov.au/pan/10052/20061221-

> ‘one of the things I can do is point out immediately that during this election campaign, Mr Rann will undoubtedly say how strong the South Australian economy is and claim all of the credit. But most people, when they step back and think about it, realise that the strength of the economy is determined by national economic policy. It’s been my experience in more than 30 years of politics that when the economy is bad, the Federal Government gets the blame, which is fair enough because it’s got all the major economic levers, and when the economy is good, state premiers fall over themselves to claim the credit. But the truth is that it’s national economic policy that has delivered low unemployment, low debt and so many other things for South Australia. And I would hope that South Australian voters would keep that in mind and put aside the more extravagant claims that are going to be made by Mr Rann during his campaign.’

Like all state and territory governments who faced election in the four years from 2003 to 2006, the South Australian government was returned to office. Whether or not Mr Howard was right to claim federal credit for the economic performance of the national economy (which may well have been due to the strong performance of the world economy), our results show that state voters systematically commit attribution errors – giving state leaders too much blame when their economy is in recession, and too much credit when it is booming.

0000/www.pm.gov.au/news/interviews/Interview1784.html (accessed 20 March 2008).

Using data on 191 state elections, we find strong evidence that economic conditions (as proxied by the unemployment rate) are positively correlated with whether the incumbent government was returned to power. We find that the economy does matter in Australian state elections, with each additional percentage point of unemployment (or each percentage point increase over the cycle) reducing the incumbent government's re-election probability by 3-5 percentage points.

We also find that what matters most is not the performance of the state economy relative to the national economy, but the state economy itself. This is consistent with voters committing the 'fundamental attribution error': rewarding state governments who happen to be in office during national booms, and punishing those who hold office during recessions. When we separate the impact of economic circumstances into unemployment in the rest of Australia (luck) and unemployment in that state relative to the rest of Australia (competence), we find that both are about equally important in determining whether incumbents lose office. In most specifications, this result is robust to instrumenting luck with the United States unemployment rate.

What are the underlying factors driving the fundamental attribution error? One psychological study (Gilbert and Malone 1995) suggests that there are four distinct causes of correspondence bias (resulting in fundamental attribution error). These are a lack of situational awareness, unrealistic expectations of behaviour, inflated categorisations of behaviour, or incomplete corrections of dispositional inferences. Our results are consistent with all four of Gilbert and Malone's underlying causes, but seems to particularly support the theory that voters lack situational awareness. This lack of situational awareness could arise in part from a lack of knowledge by

voters about the degree to which state governments can affect the macroeconomy. It may also be reinforced by politicians who claim credit for being 'good economic managers'. Indeed, some may regard it as fitting that state politicians who claim credit for booms (over which they have little control) are subsequently punished by the electorate for busts (over which they also have little control).

How do our results compare with those from other studies? In a similar specification to our differenced specification, Wolfers (2007) finds that a one percentage point increase in national unemployment ('luck') is associated with a 1.6 percentage point increase in the probability that the incumbent governor loses, while a one percentage point increase in state unemployment relative to the national rate ('competence') is associated with a 3.0 percentage point increase in the probability that the incumbent governor loses.[17] Our closest estimate to this is shown in column 2 of Table 3, where the comparable coefficients on luck and competence are 3.9 and 2.7, respectively. Although the sample of years in the two studies differs, this suggests that Australian voters in state elections are more inclined to reward 'luck' than their US counterparts.

At the national level, Leigh (2009) finds that an additional percentage point in world growth ('luck') boosts incumbents' re-election probability by 7 percentage points, more than twice the magnitude of the effect of competence (an additional percentage point of national growth relative to world growth raises the probability that incumbent governments will be re-elected by 3 percentage points). While voters

[17] To be precise, Wolfers (2007) uses the 'employment gap' (the deviation of log employment from its trend level) rather than unemployment, but he shows that the two series track one another very closely at the national level. The estimates cited here are from column 4 of Table 2 in his paper.

in Australian state elections do appear to reward luck, they do not reward it twice as much as competence, and can therefore be said to be more effective at filtering out the national economic cycle than voters in national elections are at filtering out the world economic cycle.

The central finding of our paper – that voters are not perfectly rational – is consistent with a substantial body of literature in political science and economics. For example, Achen and Bartels (2004) observed that governments are less likely to be re-elected when elections are accompanied by droughts, floods, or shark attacks. Brennan and Lomasky (1993) argue that since the probability of a voter casting the decisive ballot is extremely small, we should expect most voting to be expressive (i.e. a symbolic act, undertaken for its own sake) rather than instrumental (i.e. aimed at bringing about particular outcomes). Given that individuals systematically underestimate the impact of situational constraints when the stakes are high (e.g. when setting CEO pay or managing employees), it is scarcely surprising that electors do the same when there is only a tiny chance that their vote will matter.

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Data Appendix

State Unemployment Rates

As outlined in the text, we create state unemployment rates by combining data from four sources. These are:

a) From 1978-2006, the Australian Bureau of Statistics has published estimates of the unemployment rate for all Australian states and territories (Australian Bureau of Statistics 2006a).

b) From 1971-1977, unemployment estimates are available via the DX database (Australian Bureau of Statistics 2006b).

c) From 1947-1970, we use estimates from the Australian Department of Labour and National Service (1972) on the number of people registered to receive unemployment benefits. To calculate an unemployment rate, we divide this number by the labour force in each state and territory. These estimates are taken from the 1933-1971 censuses, published in Commonwealth Bureau of Census and Statistics (1934, 1950, 1962, 1964, 1969, 1973). (Note that censuses up to 1961 excluded full-blooded Aboriginal people.) We interpolate labour force estimates linearly for non-census years.

d) From 1913-1946, we obtain trade union unemployment rates from Commonwealth Bureau of Census and Statistics (1913-1953, various years).

In each year, we use estimates for the month of August or the September quarter (the only exception being the Northern Territory in 1977, where the only available data are for the December quarter).

Prior to 1970, estimates for South Australia include Northern Territory residents, and estimates for New South Wales include the Australian Capital Territory. In both cases, this is unlikely to have much of an effect on the estimates. Over this period, the NT accounted for 1.2-7.5% of the SA+NT labour force, while the ACT accounted for 0.4-3.2% of the NSW+ACT labour force.

While sources (a) and (b) are comparable with one another, we need to make adjustments to sources (c) and (d). To do this, we take advantage of the Australian unemployment series created by Butlin (1977), as published in Maddock and McLean (1987: 353-355). For each year from 1913-1970, we calculate the ratio of the unemployment rate in Australia in our series (based on benefit recipients or trade union unemployment). We then adjust the series for each state by the same ratio. This approach allows for the possibility that the datasets diverge from one another in different ways from year to year. By construction, our estimates are close to those of Butlin (1977).

In order to calculate an unemployment rate for the rest of Australia, we need to combine data for other states, weighting those other states by their share of the national labour force. For 1913-1970, state labour force estimates are derived from

the censuses. From 1971-2006, state labour force estimates are derived from sources (a) and (b) above. The state shares are exclusive of the Australian Capital Territory and the Northern Territory for the period when we do not have separate unemployment rates for them.

Appendix Figure 1 plots estimated unemployment rates for each state and the rest of Australia.

Australian Unemployment Rate

The Australian national unemployment rate plotted in Figure 1 is from Maddock and McLean (1987: 353-355) for 1913-1977, and from the Australian Bureau of Statistics (2007) for 1978-2006.

United States Unemployment Rate

The US unemployment rate plotted in Figure 2 and used as an instrumental variable in Table 4 is the civilian unemployment series from Weir (1992: 341-343) for 1913-1947, and US Bureau of Labor Statistics series BLS series ID LNU04000000 for 1948-2006, downloaded from <http://www.bls.gov> on 3 December 2007.

Appendix Figure 1: Unemployment Rates by State